

I. Amendments to the Claims

Please amend the claims as shown in the marked-up version of the Listing of Claims presented below. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A vacuum interrupter comprising:
dielectric encapsulation having a one-piece molded material and configured to substantially encapsulate the vacuum interrupter;
a vacuum chamber molded into the dielectric encapsulation, the vacuum chamber comprising:
a ceramic housing;
~~an~~ a first end cap sealing the housing;
a second end cap sealing the housing;
a floating shield within the housing; and
an exposed ring integral with the housing and coupled with the floating shield;
a semi-conductive material in contact with the exposed ring and disposed on a central portion of the vacuum chamber ceramic housing such that bands at end portions of the vacuum chamber ceramic housing are substantially free of the semi-conductive material; and
a first voltage screen connected to the first end cap; and
a second voltage screen connected to the second end cap,
said first voltage screen overlapping a first portion of the semi-conductive material, and
said second voltage screen overlapping a second portion of the semi-conductive material.
2. (Canceled)
3. (Currently Amended) The vacuum interrupter of Claim 1 wherein the dielectric encapsulation is epoxy ~~or the like~~.
4. (Currently Amended) The vacuum interrupter of Claim 1 wherein at least one of the voltage ~~screen~~ screens ~~is comprised of~~ comprises a perforated metal sheet.

5. (Currently Amended) The vacuum interrupter of Claim 1 wherein at least one of the voltage ~~screen~~ screens ~~is comprised of~~ comprises a metallic mesh material.

6. (Currently Amended) The vacuum interrupter of Claim 1 wherein at least one of the voltage ~~screen~~ screens is generally bowl-shaped.

7. (Canceled)

8. (Original) The vacuum interrupter of Claim 7 wherein the voltage screens substantially enclose the vacuum chamber.

9. (Original) The vacuum interrupter of Claim 7 wherein the voltage screens are mirror images of each other.

10. (Currently Amended) A system for mitigating electric field distortion inside a shielded encapsulated vacuum interrupter comprising:

a vacuum chamber;

a semi-conductive material applied to an exterior central portion of the vacuum chamber disposed within the shielded encapsulation such that bands at exterior end portions of the vacuum chamber are substantially free of the semi-conductive material;

a first voltage screen electrically connected to a first end of the vacuum chamber and disposed within the shielded encapsulation for enclosing a first portion of the semi-conductive material; and

a second voltage screen electrically connected to a second end of the vacuum chamber and disposed within the shielded encapsulation for enclosing a second portion of the semi-conductive material.

11. (Currently Amended) The system of Claim 10 wherein the first and second voltage screens ~~are comprised of~~ comprise a perforated metal sheet.

12. (Currently Amended) The system of Claim 10 wherein the first and second voltage screens ~~are comprised of~~ comprise a metallic mesh material.

13. (Original) The system of Claim 10 wherein the first and second voltage screens are generally bowl-shaped.

14. (Original) The system of Claim 10 wherein the first and second voltage screens are mirror images of each other.

15. (Original) The system of Claim 10 wherein the first and second voltage screens substantially enclose the vacuum chamber exterior.

16. (Currently Amended) A method for mitigating electric field distortion inside a shielded encapsulated vacuum interrupter comprising:

providing a vacuum chamber comprising:

a first conductive endcap;

a second conductive endcap; and

an exposed ring disposed in the exterior of the vacuum chamber;

disposing a first semi-conductive material on ~~the~~ an exterior central portion of the vacuum chamber and contacting the exposed ring such that bands at exterior end portions of the vacuum chamber are substantially free of the semi-conductive material;

connecting a first voltage screen to the first conductive endcap;

connecting a second voltage screen to the second conductive endcap;

encapsulating the vacuum chamber and voltage screens in molded dielectric material; and

disposing a second semi-conductive material on the exterior of the molded dielectric material.

17. (Currently Amended) The method of claim 16 wherein the first and second voltage screens are comprised of perforated metal sheet, or metallic mesh material, ~~or the like~~.

18. (Original) The method of claim 16 wherein the first and second voltage screens are generally bowl-shaped.

19. (Original) The method of claim 16 wherein the first and second voltage screens substantially enclose the vacuum chamber and first semi-conductive material.

20. (Original) The method of claim 16 wherein the first and second voltage screens are mirror images of each other.

21. (Original) The method of claim 16 wherein the first semi-conductive material and the second semi-conductive material are the same.

22. (Currently Amended) The method of claim 16 wherein the molded dielectric material is epoxy ~~or the like~~.